JOSEPH THOMAS McCABE
Department of Anatomy, Physiology and Genetics
Uniformed Services University of the Health Sciences
4301 Jones Bridge Road, Bethesda, Maryland 20814-4799
Telephone: (301) 295-3664 [FAX: 301-295-1715]

EDUCATION

School	Degree	Dates
Rutgers College New Brunswick, New Jersey	Bachelor of Arts	June 1974
University of Wisconsin Oshkosh, Wisconsin	Master of Science in Clinical Psychology	December 1976
City University of New York New York, New York	Master of Philosophy Doctor of Philosophy in Neuropsychology	July 1983

PROFESSIONAL EXPERIENCE

The Rockefeller University

Postdoctoral Fellow	July 1983-July 1985
Research Associate	July 1985-June 1987
Assistant Professor	July 1987-August 1989
Adjunct Assistant Professor	Sept.1989-Sept. 1990

Uniformed Services University of the Health Sciences

Assistant Professor of Anatomy & Cell Biology	September 1989-May 1993
Assistant Professor of Neuroscience (Secondary)	December 1991-May 1993
Associate Professor of Anatomy & Cell Biology	May 1993-August 1998
Associate Professor of Neuroscience (Secondary)	May 1993-August 1998
Associate Professor of Molecular & Cell Biology (Secondary)	May 1994-August 1998
Professor of Anatomy & Cell Biology	August 1998-present
Professor of Neuroscience (Secondary)	August 1998-present
Professor of Molecular & Cell Biology (Secondary)	August 1998-present
Vice-Chair for Faculty Affairs, APG	October 2000-present

Kyoto Prefectural University School of Medicine, Japan

Visiting Professor of Anatomy and Neurobiology	December 2006-present

PROFESSIONAL ORGANIZATIONS

The Histochemical Society
The Society for Neuroscience
The National Neurotrauma Society
The International Neuroendocrine Federation
The International Brain Research Organization
American Association for the Advancement of Science

EDITORIAL BOARDS AND SCIENTIFIC ACTIVITIES

Microscopy Research and Technique, Editorial Board, Quantitative Morphology Section

I have reviewed manuscripts for **European Journal of Neuroscience**, **Brain Research**, **Neuroendocrinology**, **The American Journal of Physiology**, **The Journal of Histochemistry & Cytochemistry**, **Life Sciences** and **Endocrinology**. I have also reviewed grant proposals for The Wellcome Trust.

International Advisory Committee for the 2003 World Congress on Neurohypophysial Hormones, August 31 - September 4, 2003, Kyoto, Japan

Member of the Scientific and Technical Review Board for Biomedical and Behavioral Research Facilities, The National Center of Research Resources, National Institutes of Health, June, 1995, 1997, and May, 2003.

Member of Special Emphasis Panel, ZAG1 ZIJ, The National Institute of Aging, National Institutes of Health, November, 2003, March, 2004, September, 2004, June, 2005.

Member of Grant Review Panel, Chemical Therapeutics, Defense Threat Reduction Agency, Department of Defense, April, 2006 & April, 2007.

Member of Neuroprotection and Repair Grant Review Panel, Traumatic Brain Injury (TBI), US Army Medical Research and Materiel Command (USAMRMC), Congressionally Directed Medical Research Program (CDMRP), December, 2007.

Chair, Advanced Technology/Therapeutic Development and Multidisciplinary Research Consortium (Extramural) Project Panel, US Army Medical Research and Materiel Command (USAMRMC), Congressionally Directed Medical Research Program (CDMRP), January, 2008.

UNIVERSITY ACTIVITIES

Academic Courses

Instructor in "Anatomy Block II: Clinical Head and Neck and Functional Neuroscience" course (AT01022). Present lectures in the areas of the pons, reticular formation, hypothalamus, the limbic and olfactory systems, and the vasculature of the CNS. Participate in all laboratory sessions. (February to April of each year).

Lecturer in the "Introduction to the Neurosciences" course (NSO501). Present lectures concerning olfaction, emotion, limbic system anatomy & function (Fall of each year).

Course Director of "Scientific Ethics and the Responsible Conduct of Research" (IDO704), 1995-present.

Lecturer in “Current Concepts in Neuroendocrinology and Endocrinology” (MCB 520) 2006.

Mentor, Neuroscience Research NSO901

Mentor, Research in Molecular and Cell Biology MCB901

University and Departmental Committees

Anatomy Department Computer Committee, USUHS, 1989-1991.

Chairman, Scientific ethics and the responsible conduct of research, USUHS, 1993.

Laboratory Animal Review Board, USUHS, 1992 to 1995.

Radiation Safety Committee, USUHS, 1992 to 1995.

Graduate Advisory Committee, Anatomy and Cell Biology, USUHS 1991-1995, 1996-2002.

Endocrine/Nutrition/Metabolism Curriculum Topic Group, 1997.

Ad Hoc Curriculum Review Committee, F. Edward Hébert School of Medicine, 1996-1998.

Admission and Recruitment Subcommittee, Graduate Education Committee, 1999-2002.

Anatomy & Cell Biology Graduate Program Review Committee, 2000-2002.

Department of Anatomy, Physiology and Genetics, Self-Study Departmental Review, 2000-2001.
Working Committee, USUHS Interdepartmental Center for Space Medicine, 2000-present.
Search Committee for Chair of Department of Family Medicine, USUHS, 2001.
Chair, Institutional Integrity Subcommittee of USUHS Institutional Self-Study for Middle States Commission on Higher Education, 2001-2003.
Secretary/Treasurer, USUHS Faculty Senate, 2001-2002.
Chair of USUHS Research Day Symposium, *Biological Response to Hemorrhage: Recent Advances on the Bench and the Battlefield*, May 15, 2003.
Judge for Evaluation of USUHS Graduate Research Colloquium, Oral or Poster Presentations, 1996, 1997, 1998, 2003, 2004, 2005.
Search Committee for Chair of Department of Pathology, USUHS, 2004-2006.
Research Proposal Merit Review Committee, USUHS, 1993-1995, 2001-2007.
Search Committee for faculty recruitment for the Department of Anatomy, Physiology and Genetics, USUHS, 2002-2006.
Government Purchase Card Billing Official, Department of Anatomy, Physiology and Genetics, 2002-present
Armed Forces Radiobiology Research Institute Intramural Grants Review Committee, 2005, 2006.
Member, 2004-2007 (Chair, 2005) Faculty Grievance Committee, USUHS.
Faculty Committee of the Liaison Committee on Medical Education (LCME), 2006-2007.
University Anatomical Material Research Committee, 2008-2010.
Executive Committee, Molecular and Cell Biology Graduate Program, USUHS, 2004-present.
Executive Committee Member, Neuroscience Graduate Program, USUHS, 1993-1996, 2005-present.

<u>Graduate Program Qualifying Examination and Thesis Committees</u>
Thesis Committees:

1. Katherine Wang, Anatomy & Cell Biology Graduate Program (Dr. McCabe, Thesis Advisor)
2. David Zemo, Anatomy & Cell Biology Graduate Program (Dr. McCabe, Thesis Advisor)
3. Maria Curtis, Anatomy & Cell Biology Graduate Program (Dr. Rosemary Borke, Thesis Advisor)
4. Timothy Schoen, Anatomy & Cell Biology Graduate Program (Dr. David C. Beebe, Thesis Advisor)
5. Kristin M. Blake, Anatomy & Cell Biology Graduate Program (Dr. Rosemary Borke, Thesis Advisor)
6. Robert Friedman, Biology Ph.D. Program, Saint John's University, Queens, N.Y. (Dr. Jaya Haldar, Advisor)
7. Jeffery Redwine, Neuroscience Graduate Program (Dr. McCabe, Thesis Committee Chair, Dr. Armstrong, Advisor)
8. Sara Snyder, Molecular & Cell Biology Graduate Program (Dr. Gabriella Dveksler, Thesis Advisor)
9. Nicole Ross, Neuroscience Graduate Program (Dr. Linda Porter, Thesis Advisor)
10. Steven Kim, Anatomy & Cell Biology Graduate Program (Dr. McCabe, Thesis Committee Chair, Dr. Meera Shrivastava, Thesis Advisor)
11. Hugh Dainer, Anatomy & Cell Biology Graduate Program (Dr. Borke, Thesis Advisor)
12. Omid Rahimi, Anatomy & Cell Biology Graduate Program (Dr. Juliano, Thesis Advisor)

13. Thomas Ceremuga, Neuroscience Graduate Program (Dr. McCabe, Thesis Advisor)
14. Sean Manion, Neuroscience Graduate Program (Dr. McCabe, Thesis Committee Chair, Dr. He Li, Thesis Advisor)
15. Brenda Elliott, Graduate Program in Medical & Clinical Psychology (Dr. McCabe, Thesis Committee Chair, Dr. Neil Grunberg, Thesis Advisor)
16. Lillian Gray, Molecular & Cell Biology Graduate Program (Dr. McCabe, Thesis Committee Chair, Dr. Guangyong Ji, Thesis Advisor)
17. Nathan Butler, Neuroscience Graduate Program (Dr. McCabe, M.S. Thesis Committee Chair, Dr. Geoffrey Ling, Thesis Advisor)
18. David Eddington, Molecular & Cell Biology Graduate Program (Dr. T. John Wu, Thesis Advisor)
19. Xiaolong Jiang, Neuroscience Graduate Program (Dr. McCabe, Thesis Committee Chair, Dr. He Li, Thesis Advisor)
20. Joseph O'Sullivan, Neuroscience Graduate Program (Dr. Brian Cox, Thesis Committee Chair, Dr. McCabe, Thesis Advisor)
21. Joshua Tomchesson, Graduate Program in Medical & Clinical Psychology (Dr. Singer, Thesis Committee Chair, Dr. Neil Grunberg, Thesis Advisor)
22. Michael Doh, Graduate Program in Cell and Molecular Biology (Dr. Ajay Verma, Thesis Committee Chair, Dr. McCabe, Thesis Advisor)
23. Michael Bentley Neuroscience Graduate Program (Dr. McCabe, Thesis Advisor)
24. Danette Cruthirds, Neuroscience Graduate Program (Dr. McCabe, Chairman of Thesis Committee, Dr. John Wu, Thesis Advisor)
25. Young Lee, Molecular & Cell Biology Graduate Program (Dr. Regina Day, Thesis Advisor)

Qualifying Examination Committees:

1. Katherine Wang, Anatomy & Cell Biology Graduate Program (Dr. McCabe, Thesis Advisor)
2. David Zemo, Anatomy & Cell Biology Graduate Program (Dr. McCabe, Thesis Advisor)
3. Kristin M. Blake, Anatomy & Cell Biology Graduate Program (Drs. Juanita Anders & Rosemary Borke, Thesis Advisors)
4. Stephen Noctor, Neuroscience Graduate Program (Dr. Juliano, Thesis Advisor)
5. Jay Phillips, Pharmacology Graduate Program (Dr. Brian Cox, Thesis Advisor)
6. Mary Figliola, Neuroscience Graduate Program (Dr. McCabe, Chairman of Examination Committee)
7. Patrick Awenowicz, Neuroscience Graduate Program (Dr. McCabe, Chairman of Neuroscience Examination Committee)
8. Nicole Ross, Neuroscience Graduate Program (Dr. McCabe, Chairman of Examination Committee)
9. Velia Mitro, Molecular & Cell Biology Graduate Program (Dr. Gause,Thesis Advisor)
10. Agnes Jones-Trower, Molecular & Cell Biology Graduate Program (Dr. Broder, Thesis Advisor)
11. Steven Kim, Anatomy & Cell Biology Graduate Program (Dr. McCabe, Chairman of Examination Committee)
12. William Watson, Neuroscience Graduate Program (Dr. McCabe, Chairman of Neuroscience Examination Committee)

10. Hugh Dainer, Anatomy & Cell Biology Graduate Program (Dr. Borke, Thesis Advisor)
11. Thomas Hasling, Anatomy & Cell Biology Graduate Program (Dr. Juliano, Thesis Advisor)
12. Joshua Murtie, Molecular & Cell Biology Graduate Program (Dr. Armstrong, Advisor)
13. Adam Vana, Neuroscience Graduate Program (Dr. McCabe, Chairman of Examination Committee, Dr. Armstrong, Thesis Advisor)
14. Thomas Ceremuga, Neuroscience Graduate Program (Dr. McCabe, Thesis Advisor)
15. Cam Ha, Molecular & Cell Biology Graduate Program (Dr. Gabriella Dveksler, Advisor)
16. Tara Romanczyk, Neuroscience Graduate Program (Dr. McCabe, Chairman of Examination Committee, Dr. Anders, Thesis Advisor)
17. Xiaolong Jiang, Neuroscience Graduate Program (Dr. McCabe, Chairman of Examination Committee, Dr. He Li, Thesis Advisor)
19. Joseph O'Sullivan, Neuroscience Graduate Program (Dr. McCabe, Thesis Advisor)
18. Shuijin He, Neuroscience Graduate Program (Dr. McCabe, Chairman of Examination Committee, Dr. Bausch, thesis Advisor)
20. Felicia Rankin, Neuroscience Graduate Program (Dr. McCabe, Chairman of Examination Committee, Dr. Braga, Thesis Advisor)
21. Danette Cruthirds, Neuroscience Graduate Program (Dr. McCabe, Chairman of Examination Committee, Dr. John Wu, Thesis Advisor)
22. Michael Doh, Graduate Program in Cell and Molecular Biology (Dr. Aviva Symes, Chairman of Examination Committee, Dr. McCabe, Thesis Advisor)
23. Joseph Abbah, Neuroscience Graduate Program (Dr. McCabe, Chairman of Examination Committee, Dr. Sharon Juliano, Thesis Advisor)
24. Michael Bentley, Neuroscience Graduate Program (Dr. McCabe, Thesis Advisor)
25. Young Lee, Molecular & Cell Biology Graduate Program (Dr. Regina Day, Advisor)

Awards

Member of the teaching staff of Block IV, Clinical Head & Neck and Functional Neuroscience, which received the **1997**, **1998** and **2000** awards for **Best Clinical Correlations Course** at USUHS.

Member of the teaching staff of Block IV, Clinical Head & Neck and Functional Neuroscience, which received the **1997**, **1998, 2000**, **2001**, **2003** and **2004** awards for **Best Lecture Notes** for a course at USUHS, and **Best Supplemental Materials**, **2004**.

Member of the teaching staff of Block IV, Clinical Head & Neck and Functional Neuroscience, which received the **2004** and **2005** awards for **Best Course** at USUHS,

Listed in the *Premier Edition* of *Who's Who in Science and Engineering* (1992-1993, p.551)

Graduate student, Katherine Wang, M.D., Ph.D. of the graduate program in Anatomy & Cell Biology received the **1995 Emma L. Bockman Award** for her research presentation at the USUHS Graduate Student Colloquium. Dr. Wang also received the **1996 USUHS Graduate Fellow Award** at the 1996 commencement exercise.

Graduate Student David Zemo was awarded the **1997 USUHS Graduate Fellow Award** for best poster at USUHS Research Day, 1997.

First recipient of the University's, F. Edward Hébert School of Medicine, **Outstanding Biomedical Graduate Educator Award**, May 16, 1998.

Graduate student Thomas Ceremuga was awarded the **2001 USUHS Graduate Fellow Award** for best oral presentation at USUHS Research Day, 2001.

Graduate student, Thomas Ceremuga, Neuroscience Graduate Program received the **Emma L. Bockman Award** for his research, USUHS 2002 Graduate Student Colloquium.

Community Activities

Initiated the Cresthaven Elementary School Science Fair, Silver Spring, MD, approximately 325 students in Grades K-5, 1993-1994 and 1994-1995 school years.

Co-Chair of the Sandy Spring Friends School, Celebration of Science Fair, Sandy Spring, MD, approximately 475 students in Grades K-12, 1996-1997 and 1997-1998 school years.

Science Fair Judge, Francis Scott Key Middle School, Silver Spring, MD, 2000, 2001.

Supervising Science, Mathematics, Computer Science Magnet Program project, John McManigle, Montgomery Blair High School, April, 2003-March, 2004. Mr. McManigle was a National Semi-Finalist in the Intel Science Talent Search competition.

Science Fair Judge, The Barrie Middle School, Silver Spring, MD, April, 2005, March, 2006.

Mentor to Summer Interns, 2005, 2006 & 2007, USUHS Center for Health Disparities.

Science Fair Judge, The Lodge School, Gaithersburg, MD, December, 2006.

Current Research Funding

Cefriaxone for neuroprotection from soman-induced brain injury. J. McCabe, Medical, Chemical and Biological Defense Science and Technology Program, Defense Threat Reduction Agency, Department of Defense, October 1, 2006-September 30, 2008.

N-acetyl-aspartyl-glutamate (NAAG) and glutamate carboxypeptidase (GCP) inhibitors as neuroprotectants following soman-induced brain injury, J. McCabe, P.I. Medical, Chemical and Biological Defense Science and Technology Program, Defense Threat Reduction Agency, Department of Defense, October 1, 2007-September 30, 2010.

ß-lactam antimicrobials for cytoprotection from traumatic brain injury. J. McCabe, Translational Research Project Initiative in Neuroscience, April 7, 2007-March 30, 2008.

Diazoxide as a neuroprotective element for hemorrhagic shock and cerebral injury, J. McCabe, P.I., Naval Medical Research Center, June 1, 2007-August 31, 2008.

The role of molecular chaperones in traumatic brain injury, USUHS Intramural Grant, J. McCabe, October 1, 2005- September 30, 2008.

Mechanisms of diazoxide neuroprotection in traumatic brain injury, DBSCIP-Translational Research Program, May 1, 2006- May 31, 2009.

Diazoxide as a neuroprotective element for IV fluid rescusitation, DoD TriService Nursing Program, with Michael Bentley, August 1, 2007- July 31, 2009.

Blast Lethality Injury Program, Project Grant of The FY07 Blast Lethality and Injury Research Program, Rene Hernandez, Program Project P.I., J. McCabe, P.I. of Project #4, *Translational Research Grants Program*, July 01, 2007-June 30, 2010.

Submitted Research Funding

Decay accelerating factor as a neuroptherapeutic for ultrasound blast brain injury, J. McCabe, P.I., FY07 Blast Lethality and Injury Research Program, May 1, 2008- April 30, 2011

Cefriaxone for neuroprotection from soman-induced brain injury. J. McCabe, Medical, Chemical and Biological Defense Science and Technology Program, Defense Threat Reduction Agency, Department of Defense, October 1, 2008-September 30, 2009.

Recent (Past) Research Funding

Effect of diazoxide on hemorrhagic shock, DoD TriService Nursing Program, with Joseph

O'Sullivan, May 1, 2004- August 31, 2006.

Improved survival following lethal hemorrhage through a combination of pharmacological chromatin modulation and metabolic inhibition, DARPA Research Grant, HU0001-05-01-0001 G190LN, Elena Koustova,, P.I., J. McCabe, Team 4 Coordinator, July 1, 2004-June 30, 2006.

Development of a rodent model of microthrombotic stroke. Pilot Grant, USUHS Intramural Grant Program, J. McCabe, P.I., October 1, 2005-September 30, 2007.

Effect of diazoxide on hemorrhagic shock, J. McCabe, P.I., Uniformed Services University Intramural Program, June 01, 2007-September 30, 2007.

PUBLICATIONS

Journal Articles

McCabe, J.T., DeBellis, M., and Leibowitz, S.F. Clonidine-induced feeding: Analysis of central sites of action and fiber projections mediating this response. **Brain Research** 1984, **309**: 85-114.

McCabe, J.T. and Leibowitz, S.F. Determination of the course of brainstem catecholamine fibers mediating amphetamine anorexia. **Brain Research** 1984 **311**: 211-224.

McCabe, J.T., Bitran, D., and Leibowitz, S.F. Amphetamine-induced anorexia: Analysis with hypothalamic lesions and knife cuts. **Pharmacology, Biochemistry & Behavior** 1986, **24**: 1047-1056.

McCabe, J.T., Morrell, J.I., Ivell, R., Schmale, H., Richter, D., and Pfaff, D.W. *In situ* hybridization technique to localize rRNA and mRNA in mammalian neurons. **Journal of Histochemistry and Cytochemistry** 1986, **34**: 45-50.

McCabe, J.T., Morrell, J.I., Ivell, R., Schmale, H., Richter, D., and Pfaff, D.W. Brattleboro rat transcribes vasopressin gene: Evidence from *in situ* hybridization. **Neuroendocrinology** 1986, **44**: 361-364.

Kawata, M., McCabe, J.T., Harrington, C., Chikaraishi, D., and Pfaff, D.W. *In situ* hybridization analysis of osmotic stimulus-induced changes in ribosomal RNA in rat supraoptic nucleus. **Journal of Comparative Neurology** 1988, **270**: 528-536.

McCabe, J.T. Almasan, K., Lehmann, E., Hänze, J. Lang, R.E., Pfaff, D.W., and Ganten, D. *In situ* hybridization demonstrates vasopressin gene transcription in hypothalamic neurons of crossbred hypertensive x diabetes insipidus rats. **Neuroscience** 1988, **27**: 159-167.

McCabe, J.T. Almasan, K., Lehmann, E., Hänze, J. Lang, R.E., Pfaff, D.W., and Ganten, D. Strain differences in vasopressin mRNA levels in hypertensive, normotensive, and diabetes insipidus rats. **Clinical & Experimental Hypertension** 1988, **A10(Suppl. 1)**: 131-142.

Kawata, M., McCabe, J.T., and Pfaff, D.W. *In situ* hybridization histochemistry with oxytocin synthetic oligonucleotide: Strategies for making the probe and its application. **Brain Research Bulletin** 1988, **20**: 693-697.

Gibbs, R.B., McCabe, J.T., Buck, C.R., Chao, M.V., and Pfaff, D.W. Localization of NGF receptor mRNA in the rat forebrain using *in situ* hybridization: Comparison with immunocytochemistry. **Molecular Brain Research** 1989, **6**: 275-287.

Morrell, J.I., Rosenthal, M., McCabe, J.T., Harrington, C.A., Chikaraishi, D., and Pfaff, D.W. Tyrosine hydroxylase mRNA in the neurons of the tuberoinfundibular region and zona

incerta examined after gonadal steroid hormone treatment. **Molecular Endocrinology** 1989, **3**: 1426-1433.

McCabe, J.T., Kawata, M., Sano, Y, Pfaff, D.W., and Desharnais, R.A. Quantitative *in situ* hybridization to measure single-cell changes in vasopressin and oxytocin mRNA levels after osmotic stimulation. **Cellular and Molecular Neurobiology** 1990, **10**: 59-71.

McCabe, J.T., Lehmann, E., Chastrette, N., Hänze, J., Lang, R.E., Ganten, D., and Pfaff, D.W. Detection of vasopressin mRNA in the neurointermediate lobe of the rat pituitary. **Molecular Brain Research** 1990, **8**: 325-329.

Chung, S.K., McCabe, J.T., and Pfaff, D.W. Estrogen influences on oxytocin mRNA expression in preoptic and anterior hypothalamic regions studied by *in situ* hybridization. **Journal of Comparative Neurology** 1991, **307**: 281-295.

Bolender, R.P., Charleston, J., Mottet, K., and McCabe, J.T. Quantitative morphology of the nervous system: Expanding horizons. **Anatomical Record** 1991, **231**: 407-415.

Kawata, M. McCabe, J.T., Chung, S.K., Dutt, A., Yuri, K., Hirakawa, Kumamoto, K., Hirayama, Y., and Pfaff, D.W. The effect of progesterone on oxytocin messenger RNA in hypothalamic neurons of estrogen-treated female rats studied with quantitative *in situ* hybridization. **Biomedical Research**, 1991, **12**: 405-415.

Hirakawa, M., McCabe, J.T., and Kawata, M. Time-related changes in the labeling pattern of motor and sensory neurons innervating the gastrocnemius muscle, as revealed by the retrograde transport of the cholera toxin B subunit. **Cell & Tissue Research**, 1992, **267**: 419-427.

Guldenaar, S.E.F., Nicholson, H.D., and McCabe, J.T. A novel, [tyrosyl-3,5-^{3}H]-oxytocin binding, uterine cell population in the rat. **Anatomical Record**, 1992, **233**: 538-542.

Guldenaar, S.E.F., Noctor, S.C., and McCabe, J.T. Fos-like immunoreactivity in the brain of homozygous diabetes insipidus Brattleboro and normal Long-Evans rats. **Journal of Comparative Neurology**, 1992, **322**: 439-448.

McCabe, J.T., Kao, T.-C. and Volkov, M.L. An assessment of the efficacy of *in situ* hybridization as a quantitative method by variance components estimation. **Microscopy Research and Technique**, 1993, **25**: 61-67.

McCabe, J.T. and Bolender, R.P. Estimation of tissue mRNAs by *in situ* hybridization. **Journal of Histochemistry and Cytochemistry**, 1993, **41**: 1777-1783.

Guldenaar, S.E.F., Wang, K. and McCabe, J.T. Double immunofluorescence staining of Fos and Jun in the hypothalamus of the rat. **Cell & Tissue Research**, 1994, **276**: 1-6.

Huang, F.-L., Zhuo, H., Sinclair, C., Goldstein, M.E., McCabe, J.T., and Helke, C.J. Peripheral axotomy-induced plasticity of calcitonin gene-related peptide mRNA expression in visceral sensory neurons of the nodose and petrosal ganglia. **Molecular Brain Research**, 1994, **22**: 290-298.

Wang, K, Guldenaar, S.E.F., and McCabe, J.T. Fos and Jun expression in rat supraoptic nucleus neurons after acute *vs.* repeated osmotic stimulation. **Brain Research**, 1997, **746**: 117-25.

McCabe, J.T. and Burrell, A.S. Alterations in AP-1 and CREB protein DNA binding in rat supraoptic and paraventricular nuclei by acute and repeated osmotic stimulation. **Brain Research Bulletin** 2001, **55**: 347-358.

Zemo, D.A. and McCabe, J.T., Salt loading increases vasopressin and vasopressin 1b receptor mRNA in the hypothalamus and choroid plexus. **Neuropeptides** 2001, **35**: 181-188.

Ceremuga, T.E., Yao, X.-L., and McCabe, J.T., Vasopressin-activated calcium-mobilizing (VACM-1) receptor mRNA is present in peripheral organs and the central nervous system (CNS) of the laboratory rat. **Endocrine Research**, 2001, 27, 433-445.

Zemo, D.A. and McCabe, J.T., Transcriptional responses of the rat vasopressin gene to acute and repeated acute osmotic stress. **Neuroscience Research**, 2002, **44**, 45-50.

Ceremuga, T.E., Yao, X.L., Alam, H.B. and McCabe, J.T., Alterations of *cullin-5* mRNA levels in the rat central nervous system following hemorrhagic shock. **Neurological Research**, 2003, **25**, 211-216.

Ceremuga, T.E., Yao, X.-L., Xia, Y., Mukherjee, D. and McCabe, J.T., Osmotic stress increases *cullin-5* (*cul-5*) mRNA in the rat cerebral cortex, hypothalamus, and kidney. **Neuroscience Research**, 2003, **45**, 305-311.

Ceremuga, T.E., Yao, X.L., and McCabe, J.T., Cullin-5 is ubiquitous in the rat brain. **Neuroscience Letters**, 2003, **345**, 121-125.

Yao, X.L., Liu, J., Lee, E., Ling, G.S.F., and McCabe, J.T. Progesterone differentially regulates pro- and anti-apoptotic gene expression in cerebral cortex following traumatic brain injury (TBI) in rats. **Journal of Neurotrauma**, 2005, 22, 656-668.

Yao, X.L., Liu, J., Lee, E., Ling, G.S.F., and McCabe, J.T. Cullin 5 expression in the rat CNS following traumatic brain injury (TBI). **Neuroscience Letters**, 2006, 409, 65-69.

O'Sullivan, J.C., Yao, X.L., Alam, H., and McCabe, J.T. Diazoxide, as a postconditioning and delayed preconditioning trigger, increases HSP25 and HSP70 in the central nervous system following combined cerebral stroke and hemorrhagic shock. **Journal of Neurotrauma**, 2007, 24, 532-546.

Yao, X.L., Liu, J., and McCabe, J.T. Ubiquitin and ubiquitin-conjugated protein expression in the rat cerebral cortex and hippocampus following traumatic brain injury (TBI). **Brain Research**, 2007, 1182, 116-122.

Yao, X.L., Liu, J., and McCabe, J.T. Proteasome subunit expression and function in the rat cerebral cortex and hippocampus following traumatic brain injury (TBI). **Journal of Neurochemistry**, 2008, 104, 353-363.

O'Sullivan, J.C., Fu, D., Alam, H., and McCabe, J.T. Diazoxide increases liver and kidney HSP25 and HSP70 after shock and stroke, 2008, **Journal of Surgical Research**, in press.

Chapters and Reviews

McCabe, J.T., Morrell, J.I., Richter., D., and Pfaff, D.W. Localization of neuroendocrinologically-relevant RNA in brain by *in situ* hybridization. Frontiers in Neuroendocrinology, 1986, vol. 9. New York: Raven Press, 1986, pp. 145-167.

McCabe, J.T., Morrell, J.I., and Pfaff, D.W. Measurement of gene expression of vasopressin and oxytocin mRNA in single neurons by *in situ* hybridization. Neuroendocrine Molecular Biology, G. Fink, A.J. Harmer, and K.W. McKerns (Eds.). New York: Plenum Publishing, 1986, pp. 219-229.

McCabe, J.T., Morrell, J.I., and Pfaff, D.,W. *In situ* hybridization as a quantitative autoradiographic method: An example from vasopressin and oxytocin gene transcription in the Brattleboro rat. In Situ Hybridization in Brain, G.R. Uhl (Ed.). New York: Plenum Publishing, 1986, pp. 73-96.

Kawata, M. McCabe, J.T., Pfaff, D.W., and Sano, Y. Gene expression for posterior pituitary hormones studied by *in situ* hybridization histochemistry. Recent Progress in Posterior

Pituitary Hormones 1988, S. Yoshida and L. Share (Eds.). Amsterdam: Elsevier Science Publishers B.V. (Biomedical Division), 1988, pp. 249-255.

McCabe, J.T. Desharnais, R.A., and Pfaff, D.W. Graphical and statistical approaches to data analysis for *in situ* hybridization. Methods in Enzymology, vol. 168: Hormone Action, Part K: Neuroendocrine Peptides, P.M. Conn (Ed.). New York: Academic Press, 1989, pp. 822-848.

McCabe, J.T. and Pfaff, D.W. *In situ* hybridization: A methodological guide. Methods in Neuroscience, vol. 1: Genetic Probes, P.M.Conn (Ed.). New York: Academic Press, 1989, pp. 98-126.

McCabe, J.T. What's new hybridization *in situ*?-II. SQM Quarterly, 1990, **4**: 5-7.

Bolender, R.P., Wheeler, E.F., and McCabe, J.T. Computerized stereology: Quantitative *in situ* hybridization. Neuroscience Protocols, F.G. Wouterlood (Ed.). Amsterdam: Elsevier Science Publishers, 1994, Section 08: Quantitive Neurobiology, pp. 1-16.

Ceremuga, T.E., Yao, X.-L., and McCabe, J.T., Etiology, mechanisms, and anesthesiology of autoimmune myasthenia gravis. **AANA Journal** 2002, **70**: 301-310. (Selected by journal as a CME-accredited article).

O'Sullivan, J. and McCabe, J.T., Migraine--etiology, treatment, research advances and anesthesia implications. **AANA Journal** 2006, **74**: 61-69.

Beebe, D.C., McCabe, J.T., and Mueller, G.P., Department of Anatomy, Physiology & Genetics. In: The History of the Uniformed Services University of the Health Sciences, K.E. Kinnamon, Editor, 2007, 137-142.

Editorships

McCabe, J.T. and Bolender, R.P. "Quantitative Approaches to Neuroscience Research." **Anatomical Record**, 1991, **231**: 405-598.

McCabe, J.T. "*In Situ* Hybridization." **Microscopy Research and Technique**, 1993, **25**: 1-84.

Recently Published Abstracts (from a total of 45)

O'Sullivan, J.C., Fu, D., Alam, H., McCabe, J.T. Effect of diazoxide (DZ) in an animal model of combined hemorrhagic shock and cerebral stroke. **Neuroscience Abstracts,** Program No. 95.13. *2005 Abstract Viewer and Itinerary Planner.* Washington, DC: Society for Neuroscience, 2005. Online.

Yao, X.L., Liu, J., Lee, E., Ling, G.S.F., McCabe, J.T. Impact of traumatic brain injury (TBI) on proteasome gene expression and proteolytic activity. **National Neurotrauma Society Abstract**, The 23rd Annual National Neurotrauma Society Symposium, November 10 - 11, 2005, Washington, DC

Yao, X.L., Liu, J., Lee, E., Ling, G.S.F., McCabe, J.T. Alteration of proteasome gene expression and proteolytic activity in the rat CNS following traumatic brain injury (TBI). **Neuroscience Abstracts,** Program No. 435.12. *2005 Abstract Viewer and Itinerary Planner.* Washington, DC: Society for Neuroscience, 2005. Online.

Yao, X.L., Liu, J., Lee, E., Ling, G.S.F., McCabe, J.T. Alteration of cullin-5 and ubiquitin gene expression in the rat CNS following traumatic brain injury (TBI). **National Neurotrauma Society Abstract**, The 24th Annual National Neurotrauma Society Symposium, July 7-9, 2006, St. Louis, MO

Yao, X.L., Liu, J., McCabe, J.T. Free and conjugate expression in the rat cerebral cortex and hippocampus following traumatic brain injury (TBI). **National Neurotrauma Society Abstract**, The 25th Annual National Neurotrauma Society Symposium, July 31-August 1, 2007, Kansas City, MO.

Resent Presentations and Symposia (from a total of 30)

McCabe, J.T. and Burrell, A.S. Supraoptic and paraventricular nuclei protein extracts from rats sustaining osmotic stimulation suggests AP-1 and CREB protein DNA binding participates in the transcriptional control of the vasopressin gene. *1999 World Congress on Neurohypophysial Hormones*, Edinburgh, Scotland, August 28-September 2, 1999.

McCabe, J.T. Vasopressin (antidiuretic hormone): Its role in water balance, stress and neuropathology. Lecture in the seminar series, *Military Operational Medicine Special Interest Group*, USUHS, June 20, 2000.

McCabe, J.T. Neuroanatomy of emotion. *National Capital Military Psychiatry Residency Program, Walter Reed Army Medical Center, Washington, D.C.*, February 21, 2001.

McCabe, J.T. Recent insights concerning vasopressin and vasopressin receptor gene expression regulation and its functional significance in disease, *Seminar for Department of Medicine, Georgetown University Medical School*, February 26, 2002.

McCabe, J.T. Diazoxide and progesterone as cytoprotectants for hemorrhagic shock and traumatic brain injury. *New York Medical College, Valhalla, New York,* May 17, 2006.

McCabe, J.T. The effect of diazoxide on physiological responses and heat shock protein expression following hemorrhagic shock and cerebral stroke. *Kyoto Prefectural University of Medicine,* December 14, 2006.

McCabe, J.T. The effect of diazoxide on heat shock protein expression following hemorrhagic shock and cerebral stroke. *Vascular Medicine Branch, National Heart, Lung, and Blood Institute, NIH*, May 25, 2007.

John H. McDonough, Ph.D.
Pharmacology Branch, Research Division
U.S. Army Medical Research Institute of Chemical Defense
Aberdeen Proving Ground, MD 21010-5400

Dr. McDonough received his B.A. degree in Psychology from Fairfield University in 1968, and his M.S. and Ph.D. degrees in Psychology (Physiological) from the University of Utah in 1970 and 1976, respectively. From 1970-1972 he served as an enlisted research technician in the Psychology Branch of Neuropsychiatry Division of the Walter Reed Army Institute of Research. He was commissioned in 1972 and in 1975 he was assigned to the U.S. Army Medical Research Institute of Chemical Defense (USAMRICD) as a military research psychologist where he served as chief of the Behavioral Toxicology Branch. In 1985 he was assigned to the Armed Forces Radiobiology Research Institute where he served as a research team leader until 1990. There he studied the effects of radiation exposure on performance and the ability of various radioprotectants to protect against both lethal and behavioral effects of radiation exposure. From 1991 to the present he has worked in the Research Division of USAMRICD, first as a senior National Research Council associate, and then as research psychologist. His research explores the mechanisms by which seizures develop following exposure to nerve agents, the functional and pathological consequences of these seizures, how different classes of drugs can block or terminate the seizure activity, and the assessment of treatments that can be given to modulate the neural damage.

Selected Recent Publications:

Whalley CE, McGuire JM, Miller DB, Jakubowski EM, Mioduszewski RJ, Thomson SA, Lumley LA, McDonough JH, Shih TM. Kinetics of sarin (GB) following a single sublethal inhalation exposure in the guinea pig. Inhalation Toxicology 2007 Jun;19(8):667-81.

Shih TM, Rowland TC, McDonough JH. Anticonvulsants for nerve agent-induced seizures: The influence of the therapeutic dose of atropine. Journal of Pharmacology and Experimental Therapeutics 2007 Jan;320(1):154-61.

Shih TM, Hulet SW, McDonough JH. The effects of repeated low-dose sarin exposure. Toxicology and Applied Pharmacology 2006 Sep 1;215(2):119-34.

Shih TM, Kan RK, McDonough JH. In vivo cholinesterase inhibitory specificity of organophosphorus nerve agents. Chemico-Biological Interactions 2005 Dec 15;157-158:293-303.

Capacio, B.R., Byers, C.E., Merk, K.A., Smith, J.R., McDonough J.H. Pharmacokinetic Studies of intramuscular midazolam in guinea pigs challenged with soman. Drug and Chemical Toxicology, 2004, 27(2): 95-110.

McDonough, J.H., Despain, K., McMonagle, J., Benito, M., Pannell, M., and Evans, J. The intramuscular toxicity of soman in the African green monkey. USAMRICD Technical Report USAMRICD-TR-04-06, 2004.

Shih, T.-M, Duniho, S.M., and McDonough, J.H. Control of nerve agent-induced seizures is critical for neuroprotection and survival. Journal of Applied Toxicology, 2003, 188:69-80.

Hulet, S.W., McDonough, J.H. and Shih, T.-M. The dose-response effects of repeated subacute sarin exposure on guinea pigs. Pharmacology Biochemistry and Behavior, 2002, 72:835-845.

Capacio, B.R., Whalley, C.E., Byers, C.E., McDonough, J.H. Intramuscular diazepam pharmacokinetics in soman–exposed guinea pigs. Journal of Applied Toxicology, 2001, 21:S67-S74.

McDonough, J.H., Zoeffel, L.D., McMonagle, J., Copeland, T.L., Smith, C.D. and Shih, T.-M. Anticonvulsant treatment of nerve agent seizures: anticholinergics vs diazepam in soman-intoxicated guinea pigs. Epilepsy Research, 2000, 38:1-14.

McDonough, J.H., McMonagle, J., Copeland, T., Zoeffel, D. and Shih, T.-M. A comparative evaluation of benzodiazepines for control of soman-induced seizures. Archives of Toxicology, 1999, 73:473-478.

Shih, T.-M. and McDonough, J.H. Organophosphorus nerve agents-induced seizures and efficacy of atropine sulfate as anticonvulsant treatment. Pharmacology Biochemistry and Behavior, 1999, 64:147-153.

Shih, T.-M., McDonough, J.H. and Koplovitz, I. Anticonvulsants for soman-induced seizure activity. Journal of Biomedical Science, 1999, 6:86-96.

McDonough, J.H., Clark, T.R., Slone, T.W., Zoeffel, D., Brown, K., Kim, S. and Smith, C.D. Neural lesions in the rat and their relationship to EEG delta activity following seizures induced by the nerve agent soman. Neurotoxicology, 1998, 19:381-392.

McDonough, J.H. and Shih, T.-M. Neuropharmacological mechanisms of nerve agent-induced seizures and neuropathology. Neuroscience and Biobehavioral Reviews, 1997, 21:559-579.

Shih, T.-M. and McDonough, J.H. Neurochemical mechanisms in soman-induced seizures. Journal of Applied Toxicology, 1997, 17:255-264.